REMARKS

The non-elected claims have been cancelled without prejudice to applicants' right to file an appropriate continuing application directed thereto.

The obvious omission of the word "not" in claim 1 (compare to page 3, line 21 and page 4, line 10) has been corrected by the foregoing amendment.

The previous rejection of claims 1-3 and 10-13 as anticipated under section 102 over Kodas has been withdrawn and these claims are now rejected as being obvious over that reference. In addition, claims 4-9 are rejected as obvious over Kodas and all claims have been rejected over the combination of Kodas in view of Rosencwaig. Accordingly, all of the pending claims, numbers 1-13, have been rejected under 35 U.S.C. 103 over Kodas alone or combined with Rosencwaig. It is respectfully submitted that these rejections should be withdrawn.

The broadest claim under consideration relates to a method of manufacturing a glass powder having a desired average particle size. It involves spray-thermally decomposing a mixed solution which contains (1) a glass network-forming element raw material oxide powder having an average particle size which does not exceed about 1/5 of the average particle size of the desired glass powder and (2) an aqueous solution of a water soluble compound of a different glass-forming element. The spray thermal decomposition is effected at a thermal decomposition temperature which varies depending on the relative amount of the raw material oxide powder based on the total of the powder and the water soluble compound and the average particle size of the powder. When the relative amount of the oxide powder is less than 45% by weight, then the decomposition temperature is above the melting point of the glass by either about 20°C or 50°C depending on whether the raw material oxide powder average particle size is less or more than 1/25th of the average particle size of the powder.

When the amount of the raw material oxide powder is more than about 45% by weight, then the spray thermal decomposition temperature is at least the melting point of the glass powder or the melting point plus 30°C depending on whether the powder is less or more than 1/25th of the average particle size of the glass powder. The claimed process is not obvious over Kodas, whether considered alone or in combination with Rosencwaig.

The Kodas patent relates to a method of producing a glass powder by spray pyrolysis. In a description which extends over 38 columns, the process involves generating an aerosol and then subjecting the aerosol to spray pyrolysis in a furnace. A feed of a liquid containing flowable medium containing at least one precursor of the glass is converted to aerosol form with droplets of the medium being dispersed in and suspended by a carrier gas. While the medium is described as flowable and liquid, no teaching that the medium comprises an aqueous medium has been noted in the reference nor has the Examiner pointed to any passage in the reference so stating.

The Kodas flowable liquid can contain suspended particles, such as colloidal silica particles, which are typically smaller than about one μm in size, preferably smaller than about 0.5 μm, more preferably smaller than about 0.3 μm and most preferably smaller than about 0.1 μm in size. The final glass particles can range in size from about 0.05 μm to 20 μm. That means that theoretically the particle size ratio of particulate to glass can range from the 20:1 to 1/0.005. There is obviously an extremely large number of ratios that one skilled in the art can select within this range and there is nothing in Kodas which suggests one skilled in the art to make the raw material powder particle size 1/5 of the average particle size of the resulting glass powder, or less, as opposed to a different value.

There is nothing in Kodas which teaches or suggested to one of ordinary skill in the art that the selected pyrolysis temperature should vary depending on the relative

amount of the raw material oxide powder based on the total of the powder and the amount of the water soluble compound in the aqueous solution (calculated as oxide) when the raw material powder particle size is 1/5 or less of the average particle size of the resulting glass powder. Reference has been made in the Office Action to Tables I and II to show the silica concentration. Neither of those tables, however, nor anything else in the Kodas patent teaches or suggests that the pyrolysis temperature should be selected as a function of the powder content in a precursor composition. The Office Action asserts it would be obvious to the artisan that the concentration could be less than or greater than 45% "as claimed by applicant" but that statement ignores the significance of the 45% figure in the instant claims. The point to be understood is not that the composition in the instant invention has a concentration above or below 45%, but rather that the decomposition temperature is a function of whether the concentration is above or below that value.

Kodas teaches a pyrolysis temperature which can range from 300° to 1500°C. However, nothing in the reference teaches or suggests that the temperature selected should be based on whether or not the raw material powder is less than or greater than 45% of the combination with the water soluble compound and also a function of whether the raw material oxide powder has an average particle size of more or less than 1/25th of the average particle size of the glass powder being produced. It is apparent from the foregoing that one skilled in the art can theoretically practice a method either inside or outside the scope of the instant claims depending on the selections made. But is no teaching or suggestion in Kodas that a concentration value of the raw material oxide powder of 45% is significant. Nor is there a teaching that a particle size of 1/25th of the particle size of the desired product is significant with regard to the selected temperature. Kodas does have a broad teaching that results can be affected by adjusting the process parameters but that is simply an invitation to

experiment. Kodas points to factors other than the concentration and size of the oxide powder as being important.

With respect to claims 8, 9, 12 and 15, Kodas teaches away from the invention of these claims by pointing out that when the liquid feed contains suspended particles, those particles comprise not greater than about 15% of the feed (see col. 5, lines 49-51).

The reliance on the Rosencwaig reference is not understood in the context of the present invention. This reference has apparently been cited to show that the temperature in a multi-stage oven varies by stages. However, there is a teaching of a multi-stage furnace in Kodas and neither of these teachings suggest that the temperature of the pyrolysis should be a function of the amount and size of a raw material oxide powder.

In light of all of the foregoing, it is respectfully submitted that this application is now in condition to be allowed and the early issuance of a Notice of Allowance respectfully solicited.

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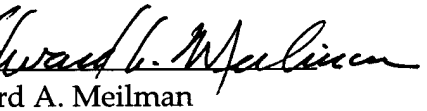
Respectfully submitted,

By 

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